



Memorandum

To: Erin Aleman
From: CMAP staff
Date: October 6, 2023
Subject: Focus on transit service

Executive summary

The primary focus of the PART project is to restore and invest in what riders want most out of the regional transit system: frequent and reliable service. Surveys from both before and during the COVID-19 pandemic have shown that riders prioritize issues like frequency and reliability over other potential improvements. The proposed investments of the PART report speak to this focus, with most new resources dedicated to closing the gap and investing in improved service.

Even before COVID-19, the frequency, reliability, and availability of regional transit did not always align with rider needs. Many regional transit riders were already confronting the effects of declining service levels, challenges that have been exacerbated by recent staffing shortages. In addition to these issues, COVID-19 has prompted changes in travel patterns, with greater relative demand for travel throughout the day and throughout the week. However, the existing resources and funding allocation approach for transit hinder the system's ability to address these evolving needs.

The region's transit providers have made significant efforts to respond to these challenges, including by adjusting scheduled service to match new travel demands. These changes are already allowing them to better meet riders' needs. However, without additional resources, transit providers are limited in what they can do. These limitations, including the ongoing operator shortage, could hamper transit's ability to fully recover long-term and could lead to

further reductions in service — an outcome that is inconsistent with rider needs and the broader climate, equity, and economic goals of the region and state.

The state can play a key role in facilitating a renewed, ambitious approach to transit service — one that would make the transit system in northeastern Illinois stand out among its national and global peers. To achieve this, CMAP recommends the state:

- **Prioritize restoring and investing in regional transit service levels.** The state should ensure the region’s transit providers have the resources necessary to provide robust levels of service, throughout the region and throughout the day. While there are many potential uses for new funds for transit, the focus on service should remain at the forefront. New resources would also enable significant investments in *more* transit, allowing more frequent service at more times and in more places throughout the region.
- **Require transit providers to develop an overarching regional transit service framework.** To maximize the value of any new public investments, the state should require transit providers to develop an overarching regional framework for transit service decisions. The framework should build on the region’s existing vision for transit: “safe, reliable, accessible public transportation that connects people to opportunity, advances equity, and combats climate change.”¹
- **Leverage regional transit service framework to guide decisions on service improvements and capital investments.** The state should require transit providers to incorporate the regional framework into regional transit service and capital investment decisions. This would represent a philosophical shift in funding allocation and allow more strategic investment in transit service that meets regional goals, regardless of which mode(s) of transit are required to achieve those goals. It would also inform how the region approaches longer-term investments in capital planning, guiding the pursuit of capital projects that enable better and more frequent service (e.g., implementing bus priority projects, addressing rail system slow zones, or enabling new practices like automated train operations).

The challenge: The frequency, reliability, and availability of regional transit does not always align with rider needs

Reliability, frequency, and availability are top priorities for transit riders

The most fundamental concern of PART is protecting and reinforcing what transit makes possible — a more prosperous, environmentally sustainable, mobile, and equitable region. Transit has long played that role in northeastern Illinois. However, those benefits will only continue to be possible if there is still a transit system to provide them — one that is reliable, frequent, and available for riders to rely on. PART's first priority is to ensure that transit operators can maintain robust service levels and pave the way for additional investments that improve frequency, reliability, and coverage of transit in the region.

Riders want better service. Surveys of regional transit riders before and after the pandemic identify improvements in service quality — particularly the reliability and frequency of trains and buses — as their top priority.²

It is important to acknowledge that reliability, frequency, and availability of service are not the only factors that matter. Riders also care about concerns like safety, affordability, and more. However, surveys have also found that for most riders, improvements in these areas do not supersede the need to provide useful transit that is available when riders need it to be. Research has shown that transit riders are particularly sensitive to long wait times for a train or bus to show up, and these experiences are one of the major challenges of shifting travelers to transit from other modes.³ And the safety or affordability of transit will not make a difference if transit is not available where or when residents want to travel.

There are also opportunities to leverage improvements to frequency, reliability, and service levels to address other system priorities. For example, increasing service frequency and reliability also improves the real and perceived concerns around the system's safety and security (see the companion memo on safety and security posted on the [PART webpage](#)). Shorter out-of-vehicle wait times means that riders will spend less time waiting at train stations or bus stops where concerns of safety are heightened, particularly in the evening and early morning. The effects of improved service frequency strongly correlate to the perceptions of the overall system experience — creating the potential to attract lapsed or infrequent riders who may currently ride the system but, outside of peak-hours, may not feel comfortable doing so.

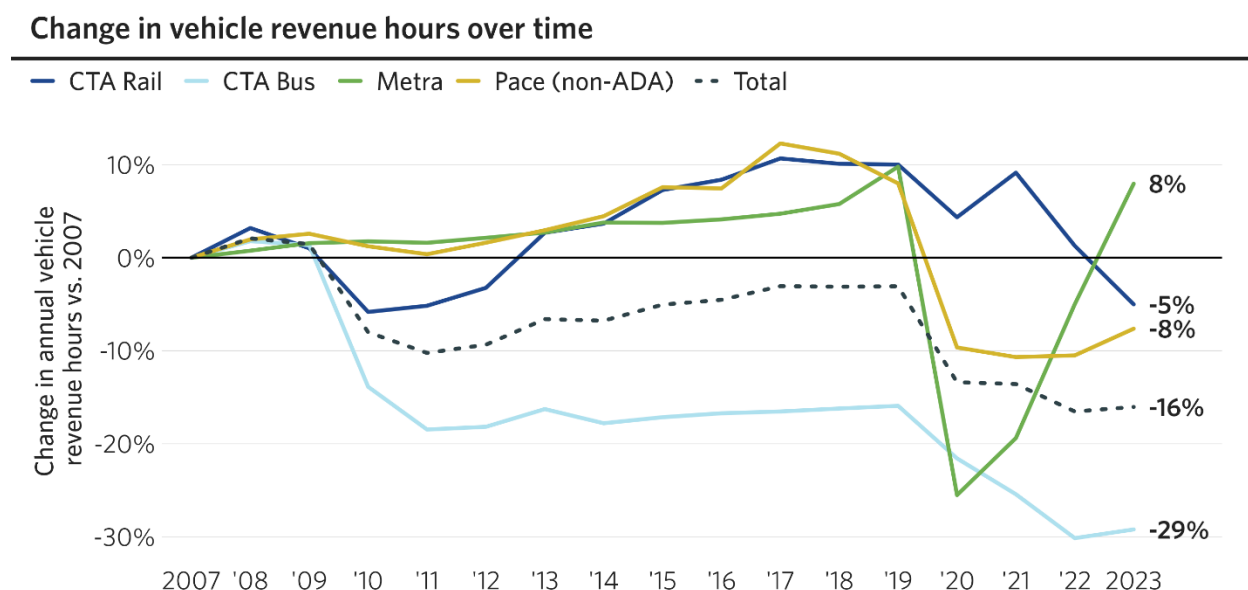
Many regional transit riders were already confronting the effects of declining service levels prior to COVID-19

Even before COVID-19, riders faced challenges with the availability of regional transit service. Historically, transit served some trips quite well, such as weekday rush hour trips to and from downtown. However, for other travelers — those traveling at different times of day or between different places — transit was not always competitive, convenient, or even available at all.

Before COVID-19, transit also saw more competition, less service, and falling ridership. Services like Uber and Lyft drew some riders away from transit. Added congestion slowed down bus service. Gaps in the sidewalk network and inaccessible rail stations meant that some riders had no choice but to find other options or not travel at all. Uncoordinated fares and services increased costs and travel times for riders. And service cuts, especially on CTA, left riders with fewer and worse choices.

In 2019, overall transit service levels were lower than they were in 2007 (Error! Reference source not found.). While Metra and Pace added service over the decade before the pandemic, this growth was more than offset by changes to CTA service relating to ongoing funding shortfalls (discussed in more detail in the PART report, available on the [PART webpage](#)). Following the 2008 recession, CTA cut more than 10 percent of its service, with the reductions impacting CTA bus service the most.

Figure 1. Overall transit service levels had fallen even prior to COVID-19



Source: Chicago Metropolitan Agency for Planning analysis of National Transit Database data.

Note: 2007-2021 data relies on 2021 Annual Time Series: TS2.1 Service Data and Operating Expenses Time Series by Mode. 2022 figures rely on unaudited monthly figures from Complete Monthly Ridership (with adjustments and estimates). 2023 figures are extrapolated using the same unaudited monthly figures from which the 2022 figures are derived.

These changes are the product of several factors, but one of the most important is the amount of funding. Like other modes of transportation, transit relies on a mix of user funding (e.g., fares) and public subsidies (e.g., RTA sales tax) to operate. The region's transit service providers are already more cost-efficient than most of their peers. Thus, while there are opportunities to maintain that relative efficiency and minimize future cost growth, for the most part, more service requires more funding — from the public, from fares, or both.

Staffing shortages have exacerbated these longstanding service level challenges

While funding is important, it is not the only factor. Another significant factor is that operators can only provide as much service as they have staff to run it. The region's transit operators have also faced challenges in maintaining and hiring staff. For example, CTA has hundreds of unfilled positions for both rail and bus operators.⁴ This has been a major contributor to recent changes to CTA's service levels, which have declined markedly between summer 2020 and today. CTA has adjusted schedules to match service levels with available staff capacity while hiring efforts continue. This has improved service reliability, but it has not been able to address the fundamental issue: the system cannot currently provide as much service as riders need. This problem is also not unique to CTA: 84 percent of transit agencies around the country, including both Metra and Pace, have reported workforce challenges that have impacted service quality.⁵

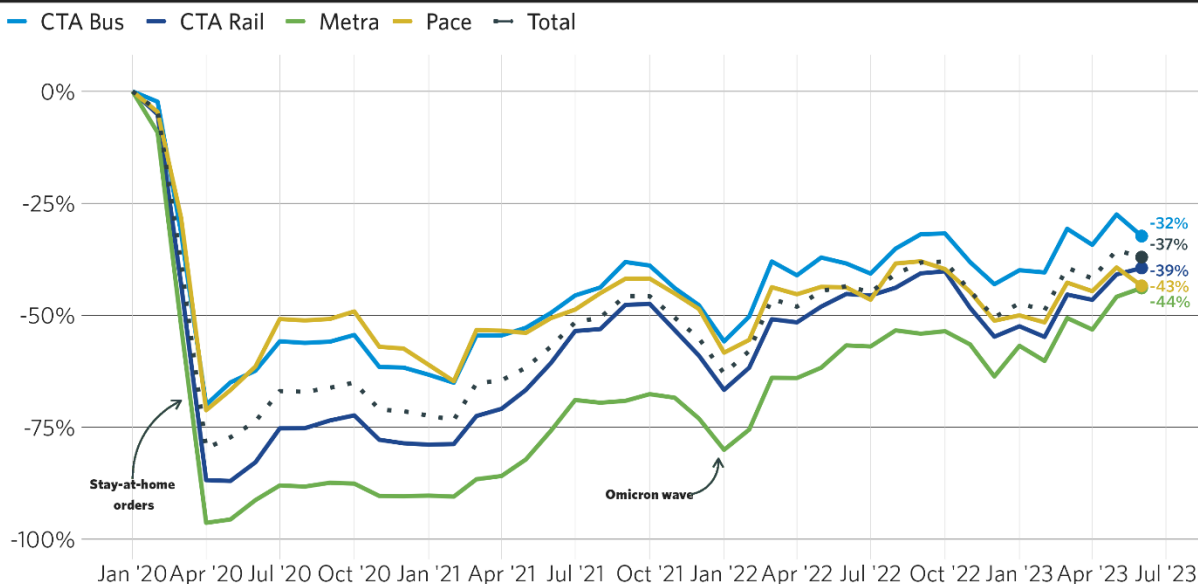
COVID-19 has prompted changes in travel patterns, with implications for the region's transit system

The COVID-19 pandemic created enduring challenges to the region's transportation system. At the onset of the pandemic, travel patterns changed drastically as residents adjusted to restrictions, closures, remote work, and online learning. Some elements of the regional mobility system, such as car and truck travel, appear to have returned to or even exceeded pre-pandemic levels.⁶ However, other changes, including shifts in how and when residents rely on transit, are still evolving and may be longer lasting. Many of these shifts have also exacerbated pre-COVID-19 trends.

Following the onset of the pandemic in March 2020, regional transit ridership fell by as much as 80 percent.⁷ As of August 2023, ridership remains well below pre-pandemic levels (**Figure 2**). However, ridership has gradually regrown since mid-2020, and has now returned to around 60 percent of its pre-COVID-19 levels.⁸

Figure 2. Transit ridership continues to grow but remains below 2019 levels.

Change in monthly transit ridership since January 2020



Source: Chicago Metropolitan Agency for Planning analysis of National Transit Database data through the month of June 2023.
Note: Pace ridership does not include ADA paratransit.

The growth in remote work has reduced the kinds of trips — rush hour commutes — which transit is currently most well-equipped to serve. With fewer of those trips, transit agencies have less fare revenue to operate all their services. Regional concerns about safety and security on the regional transit system were magnified by reduced ridership levels, staffing-related service cuts, and broader societal challenges.

CMAP's Mobility Recovery initiative modeled post-pandemic travel markets and found that trips to and from downtown Chicago would likely decline as a relative share of regional travel compared to trips to and from other parts of Chicago or suburb-to-suburb travel.⁹ Three years into the pandemic, these disruptions appear to be a durable shift, with secondary effects on other industries like the downtown Chicago office real estate market — which is experiencing record-high vacancy rates.¹⁰ For those workers who can take advantage of remote or hybrid work options, CMAP's own research anticipates a shift in commuting patterns which favor three to four days a week in the office as opposed to five.¹¹

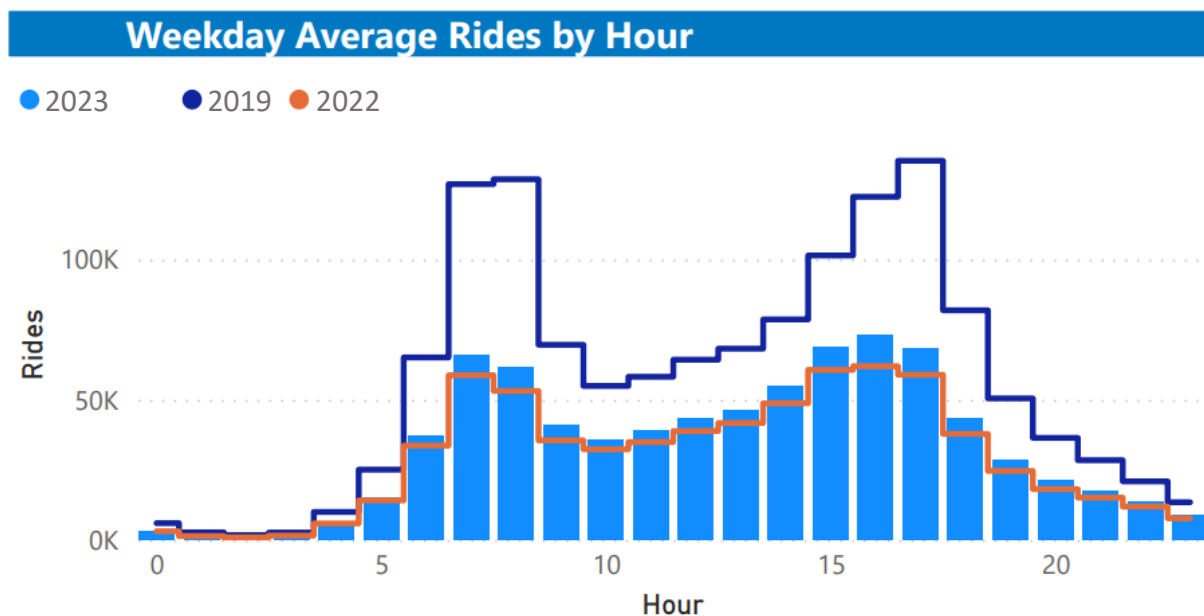
These trends underscore a shift in travel behavior that the region's transit system is struggling to respond to. While transit ridership does continue to grow, the Regional Transportation Authority (RTA) does not anticipate a full return to pre-pandemic ridership within the next decade.¹²

As a result of these shifts, the relative demand for different kinds of transit service has also changed. For example, while the weekday rush hour remains transit's most important market, that importance has lessened — especially on Fridays.¹³ Instead, ridership has recovered to a greater extent at other times, like weekends and midday.

For example, as of July 2023, on an average weekday, the CTA is serving 1 million unique customers per month, about 83 percent of pre-pandemic levels.¹⁴ However, overall ridership remains around 55 percent of pre-pandemic levels for rail and 60 percent for bus — meaning that riders have returned but are now riding less frequently than before. In contrast, recovery on the weekends is at 75 percent of pre-pandemic levels and average weekday rides by hour for June 2023 show a flatter demand curve for peak-hours (see **Figure 3** below) — demonstrating a stronger demand for off-peak and weekend trips.

Transit’s core market will continue to be peak-hour commutes, especially those to and from Chicago’s downtown. For CTA, these peak-hour commutes still account for 40 percent of total ridership. However, this is lower than the pre-COVID-19 share, demonstrating that riders are also showing relatively stronger interest in relying on transit for off-peak and weekend trips — when existing service is less frequent.¹⁵

Figure 3. Current CTA ridership is still highest during weekday peak periods but is now significantly flatter across the day than pre-pandemic trends.¹⁶



These changes in travel demand emphasize the importance of a challenge that existed even before COVID-19. Too often, transit schedules lack reliable and frequent service outside of weekday peak-hours or for trips that do not start or end in or around Chicago’s Loop. While peak-period work trips and travel to and from downtown will continue to be a large share of transit ridership, today’s transit schedules are not conducive to attracting travelers that need fast, reliable, and frequent service in off-peak hours and on the weekends to get to healthcare, education, shopping, recreational, or other non-work destinations.

Existing transit funding formulas hinder the system’s ability to address evolving needs

Today, most public funding for transit flows through fixed statutory funding formulas first established in 1983. New funds, added in 2008, largely mirrored the 1983 allocations while adding new funding on top of existing resources. As discussed in the PART report, these static funding flows have emphasized the geographic source of revenue over the costs of where service is provided.

This formula-based approach does not reward coordination or the best interests of the transit rider, who may benefit from a combination of modes and services throughout the region. Instead, it incentivizes service fragmentation and competition for riders even when a more coordinated approach to regional service planning could provide better service for the end user. The inflexible nature of formulas has also posed challenges to the adoption of other regional goals, such as fare integration and transfers. These challenges impact the system’s service frequency and reliability — but they also have cascading impacts on its seamlessness and how riders perceive the overall transit experience.

Regional context: Transit agencies have adjusted service to accommodate new travel patterns

The region’s transit providers are already adjusting service to better serve these changing demands. As discussed below, Metra is evaluating how it can restore service in a way that responds to new travel markets and increase frequencies, including during off-peak times.¹⁷ CTA’s recent changes have helped address long gaps in service during lower frequency periods like evenings and midday.¹⁸ And Pace has reallocated service from low-ridership, commute trip-oriented “feeder routes” to enable increased frequencies on other parts of the system.¹⁹

However, without additional resources, the region’s transit providers will only be able to do so much to respond. Today’s temporary staff constraints would become permanently reduced levels of capacity. To better serve one market or time of day, transit providers will usually need to reduce service to another. There may be some opportunities to do this strategically, such as reallocating some peak period Friday service to other times or days. But these opportunities are limited and pursuing them too aggressively could leave the system unable to provide the quality of service residents want and deserve.

Metra is adding off-peak service while exploring short- and long-term changes

Of the three transit agencies, Metra’s traditional commuter-oriented model saw larger and enduring declines in ridership compared to CTA and Pace (see **Figure 2** above). As a commuter

rail system which primarily served riders moving in and out of downtown Chicago, Metra heavily relied on these trips pre-pandemic to raise enough fare revenues to meet the statutory farebox recovery ratio.

The challenges facing Metra since the pandemic underscore the need for diversifying its service schedules to be more resilient in the era of hybrid and remote work — transitioning from commuter rail to a regional rail model. As a result, the agency has continuously adjusted service and fares to court riders that fit outside the 9-to-5 commute — including adding more off-peak and evening trains on some of its lines and proposing a simpler, more affordable fare zone structure which introduces a flat fare for intermediate rides (rides that do not originate or end in the proposed downtown zone).²⁰

As an example of new rider demands, in June 2023, weekend ridership on the Metra Electric^a line was roughly 130 percent of June 2019 ridership, far outpacing pre-pandemic levels. In comparison, weekday ridership to downtown during peak hours was only at 42 percent of 2019 levels in June 2023.²¹ At a system level, Metra’s peak-hour ridership to downtown in June 2023 was only at 46 percent of June 2019 levels, while reverse commute peak (62 percent), midday (73 percent), evening (67 percent), and weekend (~85 percent) levels are recovering more quickly.

Metra is currently working on a route restoration study to incorporate near-term service changes based upon existing travel demand patterns. Long-term, the agency is ramping up a systemwide network plan to understand future capital assets needed to better serve this new travel market.²² However, Metra also faces unique barriers to implementing all-day and frequent service (referred to as a “regional rail” model in other PART materials) due to its reliance on rail assets owned by freight railroads and other operating agencies (e.g., Amtrak).

See the companion memo for CMAP’s recommendations on transitioning the region’s commuter rail system to a regional rail model, available on the [PART webpage](#).

CTA is optimizing schedules to improve service reliability while ridership demand increases during off-peak hours and weekends

The CTA has faced significant workforce challenges since 2020, with severe shortages in both train and bus operators.²³ This resulted in unfilled scheduled service and unreliable wait times. In response, the CTA adjusted schedules on rail and bus in September 2022²⁴ and January 2023,²⁵ respectively, to better align with its existing workforce and improve accuracy of real-

^a Metra Electric’s June 2023 ridership also sees evening (92 percent), reverse commute peak (145 percent), and midday (95 percent) levels approaching or outpacing June 2019 ridership – indicating further demand for off-peak and weekend trips.

time travel information. The changes have significantly improved the reliability of service on the system, increasing service delivered according to respective schedules from 72 percent in August 2022 to almost 90 percent in May 2023 on rail and from 81 percent to 94 percent on bus within the same time span.²⁶

The changes have improved CTA's reliability, but the optimized schedules also reflect a significant reduction in service relative to pre-pandemic levels — with a 9 percent decrease in revenue hours on CTA trains and a 16 percent decrease on CTA buses.²⁷ The CTA's commitment to addressing its operational challenges have allowed it to provide more dependable service for riders today, but these changes show the limits that the agency faces in making the most of its existing resources.

Pace is re-evaluating its network amid changes in ridership and travel demand

At the beginning of the pandemic, Pace suspended 75 routes and reduced service on 25 routes as ridership fell significantly, especially on buses serving 9-to-5 commuters coming to/from Metra stations.²⁸ This included routes providing suburb-to-suburb reverse commuter express service and reverse commuter shuttles (branded as Shuttle Bug routes, which move reverse commute riders from Metra stations to suburban office parks).

As pandemic restrictions eased and ridership began to return, Pace restored six of the former routes but permanently cut the remaining suspended routes.²⁹ In the interim, the agency has been promoting its Vanpool program which offers a flexible rideshare-style service to commuters who may be in the office only a few times a week for a monthly fare based on the individual riders' needs.³⁰ Additionally, Pace continues to invest in better service along existing corridors with the Pulse Milwaukee Line and the recent launch of the Pulse Dempster Line, which both provide 15-minute frequencies for most of the day.³¹

Long-term, the agency is ramping up a Network Revitalization and Systemwide Restructuring initiative aimed at informing how future Pace service could meet the needs of all riders in a post-pandemic environment.³²

Peer regions provide a blueprint for future investments in the region's transit service

MTA announces plans to increase off-peak service

The State of New York's recently adopted budget prioritizes investments in New York City's transit service, with funds specifically earmarked for service improvements on the MTA's bus and subway system.³³ With these additional resources, the MTA is already announcing improvements to off-peak service, with trains on the N and R lines now arriving every 8 minutes between 10 am and 4 pm on weekdays to better serve new travel patterns.³⁴ Other off-peak service improvements are planned in phases on three subway lines by 2024.³⁵

These investments came in the context of the MTA's own "fiscal cliff", which was estimated to be a \$1.2 billion gap in 2024.³⁶ With new public revenues and fare increases, however, the MTA is no longer facing a fiscal cliff and is anticipated to secure enough short- and long-term funding to continue to make significant improvements in service at all hours of the day. Advocates have highlighted additional opportunities, such as a potential commitment to an even more frequent baseline of 6-minute service frequencies.³⁷

WMATA is running more train service than at any point in its history and has exceeded pre-pandemic bus service levels

In September 2023, the Washington Metropolitan Area Transit Authority (WMATA) announced its eleventh service increase on its rail system since summer of 2022 – the most train service the agency has provided in its 47-year history.³⁸ The agency has mostly focused its rail service improvements during off-peak hours, evenings, and weekends to accommodate post-pandemic travel demand.³⁹ For example, WMATA's busiest line, the Red Line, is now running trains every 6 minutes during off-peak daytime hours, every 8 minutes on the weekends, and every 10 minutes after 9:30 p.m. The agency has also increased peak-hour frequencies to as often as every 5 minutes on the Red Line, and at most 10 minutes on other lines, as it experiences higher ridership during morning and evening commutes.⁴⁰

WMATA has also improved service on its bus network – exceeding pre-pandemic service levels by 4 percent as of June 2023.⁴¹ In Fall 2021, the agency launched a Frequent Service Network (FSN), whose goal was to provide rail-like frequencies of 12 minutes or less on key bus routes from 7 am to 9 pm, every day of the week.⁴² Most recent bus service investments have expanded the number of routes in the FSN to reach more riders. The agency affirms that these bus improvements "increase ridership, expand access, and advance equity region wide."⁴³

Similar to transit agencies in northeastern Illinois, WMATA is facing a fiscal cliff of \$750 million in 2024. Left unaddressed, the agency would be forced to cut up to 60% of its service.⁴⁴ The service improvements that the agency has implemented are already demonstrating their return on investment – with rider satisfaction increasing by 16 percentage points in a year.⁴⁵ They also serve as support for negotiations with local, state, and federal officials as the agency seeks to find a dedicated revenue source to close its budget gap.

Berlin, Germany has continued to invest in frequent, all-day service

The northeastern Illinois region can also learn from the example of regions in other countries, such as Berlin, Germany. Across Berlin's many transit services – urban rail, trams, buses, and suburban rail – riders benefit from frequent, all-day service. For example, on Berlin's U-Bahn lines (urban heavy rail), all-day frequencies on most lines are every 5 minutes or less. Even less frequent lines maintain 10-minute headways during the day. Over the weekends, the U-Bahn runs 24 hours, typically in 10-minute intervals during the day and 15-minute intervals at night.⁴⁶ Berlin also maintains a network of "Metro Buses" that operate every 10 minutes or less throughout the day, with overnight service at least every 20-30 minutes.⁴⁷

Travelers in the region also benefit from frequent rail service to suburban destinations and through the urban core with higher-speed "S-Bahn" services. In northeastern Illinois, the most comparable service provider is Metra, but the S-Bahn operates significantly more frequently than existing Metra service. S-Bahn trains run every 5, 10, or 20 minutes depending on the time of day. On weekends, the S-Bahn runs 24 hours, with 30-minute frequencies at night.⁴⁸

Berlin is continuing to build on these frequencies. For example, in December 2022, Berlin transit officials announced service improvements to provide more frequent trains throughout the day, including on U-Bahn lines. The new service levels include trains every 4 minutes on the U9 metro line during most of the day on weekdays, up from the previous 5-minute frequencies.⁴⁹

In Paris, France, automated operations enabled even higher frequencies within an already world-class system

Paris, France also demonstrates how regions with legacy transit systems can continue to invest in and expand on robust transit service levels. Régie autonome des transports parisiens (RATP), the transit operator for the Paris region, began work to automate its second legacy rail line, Metro Line 4, in 2016. The work on Line 4, which is the second busiest rail line in the region, completed in 2023 with the introduction of a fully automated train fleet.⁵⁰ Notably, these investments were made despite the Paris region already providing high frequency transit service.⁵¹ Line 4 trains can now arrive as frequently as 85 seconds apart. The rebuilt line also features platform screen doors to increase rider safety and raised platforms to accommodate the new rolling stock.⁵²

Other benefits of this investment include real-time information displays of arriving trains and other passenger communication, like delays. RATP noted that automation also allowed more transit personnel to provide customer service to passengers in the stations and on the trains. While the investment had an upfront cost of 470 million euros, the transport authority noted long-term cost reduction benefits to the line's automation, including a 15 percent decrease in power supply consumption.⁵³

Montreal's new rail line will have high frequencies throughout the day and throughout the week

The first section of the Réseau Express Métropolitain (REM) opened July 28, 2023, as the city's first fully automated metro line. The new line will operate at frequencies as low as every 3 minutes and 45 seconds during peak hours, with off-peak and weekend/holiday frequencies at 7 minutes and 30 seconds.⁵⁴ Once complete, REM will provide frequent service from Montreal's downtown to outlying suburbs. The system partially relies on existing rights-of-way, but represents a substantial service expansion from services that previously operated on those corridors.

Like the Paris example noted above, REM demonstrates the benefits of automated train operations, ranging from reallocating labor to increase frequencies on other parts of the transit system, to increasing overall service reliability. Additionally, the line's platform screen doors improve passenger safety, reduce bottlenecks when entering and exiting train cars, and minimize energy costs through reduced heat loss between train cars and the station.⁵⁵

These investments represent a first for a North American public transit system of this size. They also demonstrate what transit agencies can accomplish when they have sufficient operating and capital funding to increase transit access, improve transit frequency and reliability, and make transit a more competitive option in a multimodal transportation system.

Recommendations

This memo outlines three related recommendations to fund and allocate new investments in regional transit service. Because these recommendations are interconnected and depend on each other to succeed, the evaluation of the proposed policies and implementation steps are consolidated at the end of this section.

Recommendation 1: Prioritize restoring and investing in regional transit service levels

The state should ensure the region's transit operators have the resources necessary to provide robust levels of service, throughout the region and throughout the day. While there are many potential uses of new funds for transit, this focus on service should remain at the forefront.

A regional vision for transit service in northeastern Illinois, as recommended below, cannot materialize without public funding dedicated to better service. The legacy system that stands today has weathered multifaceted challenges since its inception — the pandemic included. This system also represents the region’s backbone — supporting economic growth, connecting people to opportunities, and advancing climate resiliency.


Funding better service facilitates transit’s ability to accommodate new travel needs by serving more riders in more places at more times. A well-funded transit system also improves outcomes for everyone and advances inclusive growth, one of the top priorities identified in the region’s comprehensive plan, ON TO 2050.


Consistent with this principle, the PART report prioritizes service above all other potential investments, accounting for a large majority of new public funding. New resources at these levels would address the anticipated funding shortfall, allowing operators to maintain service at pre-COVID-19 levels in an evolved regional transit network. But these new resources would also enable significant investments in *more* transit, allowing more frequent service at more times and in more places throughout the region. Along with other fare revenue, financial stewardship strategies, and complementary capital investments, the proposed operating funding increases could enable incremental service investments ranging from \$250 million to \$500 million annually. New public funds would also leverage additional fare revenue from new riders, enabling a proportionally larger increase in service (even if at a lower rate than the pre-COVID-19 farebox recovery ratio).

These additional resources also support transit operators as they continue aggressive recruitment efforts while exploring innovative workforce practices to remain competitive and attractive places to work. **Appendix B: Addressing workforce challenges on the system** provides a summary of best practices that the transit agencies should consider as they continue to recruit new talent.

Northeastern Illinois is at an inflection point. Without transit, the state and region cannot remain competitive in a global economy, mitigate the effects of the climate crisis, increase access and mobility for residents, and redress systemic barriers faced by marginalized groups. But transit is only as useful as its ability to get people where they need to go. To meet this challenge, the state and region should embrace a new paradigm and philosophy for funding the regional transit system.

Net cost / investment

Category	2025	2026	2027	2028	2029	2030
 Operations & maintenance	\$1-\$1.25 billion annually					

	<p>\$50-150M+ annually</p> <p>Note: Capital costs could vary significantly depending on service patterns. These funding amounts would not be sufficient to address transit’s state of good repair backlog, which remains even following the significant investments allowed by Rebuild Illinois and the Infrastructure Investment and Jobs Act. However, dedicated new capital funds could support targeted investments that support increased service, whether through SOGR efforts like addressing rail slow zones or enhancements or capacity expansions to the existing system.</p>
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Recommendation 2: Require transit providers to develop an overarching regional transit service framework

The state should require a regional entity, in coordination with the region’s transit providers, to develop and implement an overarching regional transit service framework alongside a set of performance standards that assist in quantifying progress made towards achieving this vision. This framework should build on the region’s existing vision for transit: “safe, reliable, accessible public transportation that connects people to opportunity, advances equity, and combats climate change.”⁵⁶

A unified approach to the existing efforts that the transit agencies are undergoing fosters better service coordination. This framework facilitates the implementation of a seamless transit experience that optimizes coverage, frequency, and accessibility. It also positions the region to identify common objectives of transit service, like where to provide service, how much service to operate, how different services should connect to one another, and when service should run.

These concepts are not new to the region. Each transit operator already makes decisions about minimum service standards and leverages their individual approach when allocating resources within their system.⁵⁷ RTA also maintains some discretionary funding, such as the Innovation, Coordination, and Enhancement (ICE) program, with a goal of incentivizing broader regional coordination across modes.⁵⁸

However, most existing transit operating funds are allocated according to fixed statutory formulas. A regional framework of transit service facilitates a more equitable and flexible allocation of transit operating dollars. Funding allocations driven by statutory formulas do not consider evolving trends and patterns in travel, population, employment, and other centers of activity. They also do not recognize or reward a coordinated approach to regional service planning or seamless connections between different transit modes. A new funding allocation model with the framework as its basis would shift these incentives. It would also allow transit

to respond proactively to changes in the landscape, creating a more resilient and future-proof system.

The framework should articulate goals and make decisions on service levels in different contexts throughout the region. It should also reflect existing and future changes in travel demand by accommodating more types of trips and travelers throughout the day and week. The framework could also prioritize the use of discretionary operational funding, and the new funding allocation model, to advance essential goals on equity and climate impacts. Key decisions that the framework should address include:

- **Mode.** Which type of service is best suited to meeting which travel demands (e.g., bus, urban rail, regional rail, etc.).
- **Frequency.** How often service will arrive throughout the day on different modes.
- **Span.** What time service will start and end.
- **Coverage.** What modes and frequencies are appropriate in which places.

The framework should also consider how the different elements of the system can interact and complement one another through multimodal connectivity. This should include accounting for first- and last-mile connections, supporting timed transfers through coordinated schedules, and planning routes, stations, and wayfinding that allow for easier movement between modes.

It would also be critical to develop and implement service performance standards that measure the region's progress towards achieving the vision and framework. Service standards increase the system's accountability, transparency, and success in the implementation of the shared service framework. As one example, this could mirror CMAP's existing use of regional indicators such as the share of the region's population and employment with at least moderately high transit availability.⁵⁹ Any service standards should center the needs of transit riders, foster accountability and transparency, incentivize collaboration and service alignment, and enable both agencies and the public to easily measure progress and demonstrate a return on investment.

Any service framework would also need to account for the "ceiling" of service possible (e.g., the highest level of service the region could provide using existing assets and funding). CMAP staff conducted a preliminary and order-of-magnitude service exercise to gauge the scale of additional resources necessary to operate existing peak period service levels on CTA and Pace, all day, every day of the week. This exercise assumed the use of existing assets (e.g., buses, trains, and bus garages) and that staffing levels were not a constraint. Appendix A includes additional details on the methodology and assumptions. Notably, the exercise excluded Metra due to additional constraints on service from Metra's use of rail lines with active freight and Amtrak conflicts. For complementary recommendations and analysis on Metra's transition to a regional rail model (including considerations around freight constraints), see the companion memo on regional rail on the [PART webpage](#).



The new resources recommended by PART could support service investments of this magnitude. Based on existing transit operating costs, these order of magnitude estimates show

that the operating expense of this approach on CTA and Pace could be in the range of \$450-550 million annually (in 2023 \$). Some of these expenses would be offset by new fare revenue. These figures do not account for the required complementary investments in paratransit service, nor do they account for the funding necessary to close the anticipated budget shortfall in 2026. These estimates are also expected to increase accordingly with overall operational cost growth and inflation.

To put those figures in context, this kind of all-day service frequency could support trains every 6 minutes for travelers on the CTA Red Line, whether at noon on a Wednesday or 10pm on a Saturday. It could support travelers on Pace’s #383 South Cicero route from Tinley Park to Midway with buses that come every 10 minutes – in the morning, mid-day, or on the weekend. And it could allow travelers on CTA’s #79 to benefit from service every 5 minutes – making it easier and faster for them to connect to the Red Line, or to get to and from opportunities in Chicago and beyond.

While in practice these frequencies may look different based on travel needs, they serve as an example of the kind of improvements that are possible when the state and region prioritize funding for transit service.

Net cost / investment

Category	2025	2026	2027	2028	2029	2030
 Operations & maintenance	\$1-\$2 million for planning					
 Capital	N/A					

Recommendation 3: Leverage regional transit service framework to guide decisions on service improvements and capital investments

The state should require transit providers to incorporate the regional framework into regional transit service investment decisions. This would represent a philosophical shift in funding allocation and allow more strategic investment in transit service that meets regional goals, regardless of which mode(s) of transit are required to achieve those goals. This funding allocation model would also allow transit providers to consider evolving trends in travel, population, and employment — and enable them to respond proactively to challenges and opportunities as they emerge.

The goal of this recommendation is not to reduce existing service levels in any part of the region. When accompanied by new resources, the framework will ensure that all regional transit users maintain the access they have come to rely upon, even while new investments are targeted to achieve additional regional transit service goals.

Even with significant new funds, there would still be both financial and logistic limitations on how much service could be offered — relating to cost, staffing, fleet size, track capacity, and more. In the near term, these limitations should lead transit operators to prioritize adding service that is feasible within the constraints of existing capital resources. This could include greater investments in off-peak and weekend services, by adopting more frequent minimum headways for all-day service on both bus and rail (e.g., every 5-10 minutes on CTA rail and key bus routes, hourly service on Metra, 15 minute service on key Pace bus routes).



More frequent all-day service would align with investments made by national and global peer systems, such as those highlighted above. These investments would complement other recommendations in the PART project, such as the evolution to regional rail and a more aggressive pursuit of bus priority projects. They would support travelers on all the region's transit modes, from CTA rail to Pace ADA paratransit. And while fixed-route and paratransit services will and should remain the core of the region's transit service, these investments could also support targeted improvements for better coordination and deployment of the region's various demand-responsive services.

This approach would also build on recent service board efforts to streamline and rationalize service provision. Each of the region's transit operators has services that overlap with one another, such as Pace and CTA in outer Chicago neighborhoods and inner Cook County suburbs, or Metra and CTA on rail corridors throughout the urban core. This model could reward operator efforts like the North Shore Coordination Plan,⁶⁰ which maximized the effectiveness of CTA and Pace's complementary bus services in part of northern Cook County.

This regional transit framework should also inform how the region approaches longer-term investments in transit operations and related enabling capital investments. Even with additional resources, if some elements of the region's service standards remain out of reach, the framework could guide the pursuit of additional operating and capital funds. For example, many of the system's backlog of capital investment needs, such as rail slow zones, have a direct impact on how much service operators can provide today. If staff levels continue to be a constraint, the region could also maximize the value of staff that are available by investing in related PART recommendations like bus priority or exploring longer-term investments in strategies like automated train operations, as highlighted above.

This approach would also guide decisions about how to weigh conflicting priorities. For example, both CTA and Pace have committed to transitioning their bus fleets to zero emissions by 2040. As they pursue this important goal, it will be crucial to ensure that these investments do not come at the expense of the frequency or reliability of existing transit service.

Net cost / investment

Category	2025	2026	2027	2028	2029	2030
 Operations & maintenance	Staff time					
 Capital	N/A					

Implementation steps

Legislative action






- Require a regional entity to develop an overarching framework for regional transit service and performance standards to track progress towards the framework
- Require a regional entity to allocate funding of transit operations in a manner consistent with the framework and in pursuit of improving system performance
- Require a regional entity to engage in capital planning and programming that aligns with a regional framework for transit service and improves system performance through governance reforms (see the [PART webpage](#) for companion recommendations on governance reforms)
- Increase the level of funding for transit operations and capital programs required to achieve the regional vision (see the [PART webpage](#) for funding proposals)

Local and regional actions

- Transit providers to develop shared framework for transit service and performance metrics to track progress through public and stakeholder engagement
- Regional entity to allocate funding to each transit provider in alignment with the framework
- Regional entity to identify and plan for capital investments that achieve the regional vision, framework, and improve system performance while addressing state-of-good-repair goals, including rail slow zones, expanding rail yards and bus garages, etc.
- Regional entity to also identify and plan for longer-term investments that can enable better service, like updated rolling stock equipped with automatic train operations capabilities, projects that enable through-running of Metra trains, a regional bus priority network, and others.





Evaluation^b

Policy



Category	Rating	Rationale
 Mobility	High	Increased transit service and reliability reduces travel times for regional residents and improves accessibility of jobs, education, and other opportunities.
 Equity	High	Previous CMAP research has shown that residents from lower-income households rely on transit for a wider range of trips than do residents from higher-income households. ⁶¹ By providing more transit service frequency, particularly during non-peak hours and to non-work destinations, the region's transit system can better serve the residents who rely on it most.
 Environment	High	More frequent and reliable service is conducive to increased transit ridership, which in turn reduces GHG emissions as travelers shift from other more environmentally intensive modes.
 Economy	High	Reducing travel times for transit riders by increasing the frequency of trains and buses increases access to the number of employment and educational opportunities available within a reasonable time frame. Better service during off-peak hours and on the weekends also supports the regional economy as people gain access to more non-work destinations, like shopping and recreation.
 Regional benefit	Regional	A regional approach to transit service stands to benefit all communities, with particular focus to communities that are conducive to transit.

^b To evaluate different recommendations, CMAP developed a rubric for both policy impact and process difficulty. Policy evaluations are ranked from low to high. "High" means the recommendation would lead to significant improvements in the policy outcome (e.g., greater mobility or additional access to economic opportunities); "Medium" means the recommendation would have a neutral or minimal impact (e.g., no significant impact on transit ridership); and "Low" means the recommendation would worsen policy outcomes (e.g., having a disproportionate impact on low-income communities). For the "Regional benefit" category, the options are "Urban," "Suburban," and "Regional," designating where benefits are concentrated. For all process evaluation categories except timing, the scale ranges from "Low" (difficult) to "High" (easy or relatively straightforward). For "Timing," the options are "Near" (implementation could happen between now and 2026), "Medium" (implementation could occur between 2026 and 2028), and "Long" (implementation would likely be beyond 2028).

Process

Category	Rating	Rationale
 Administrative feasibility	Medium	The transit providers are experts in operating transit service. This approach to funding allocation and service planning would differ from current practice, however, and would require related governance changes. More robust service would also require addressing current operator staffing shortages, especially at CTA, along with incremental hiring at all transit agencies.
 Political feasibility	Medium	Better service provides the public with greater confidence in the system's overall reliability and improves perceptions of safety at stations and stops. However, this shift will require significant investment and reforms to system governance.
 Timing	Near/ Medium/ Long	Implementation of service improvements should be done in phases to ensure that new and existing travel markets are in alignment with the regional transit service framework. Implementation will also depend on operational and capital capacity, which will vary by operator and corridor.
 State span of control	Medium/ High	The state plays an integral role in providing the resources necessary for better service to materialize, including changes to the governance structure of the transit system — primarily to ensure that service needs are addressed in a comprehensive regional fashion. The state also can assign responsibilities within the regional transit system. However, success will require close collaboration with regional stakeholders and transit agencies.

Combined net cost / investment

Category	2025	2026	2027	2028	2029	2030
 Operations & maintenance	\$1-\$1.25B for service investments, \$1-\$2M for planning					
 Capital	Investing in frequent, all-day service across the system could leverage existing capital assets. However, new capital investments will be necessary to achieve service improvements which are currently out-of-reach due to system capacity constraints. As noted above, \$50-150M+ annually in targeted capital investments could support increased service but would <i>not</i> be sufficient to address transit's state of good repair backlog.					

Appendix A: Service example exercise and cost estimates

Staff conducted an example exercise to gauge the magnitude of resources necessary to provide improved service during off-peak hours and on the weekends. This exercise is preliminary and should be understood to represent planning-level, order of magnitude expense levels, rather than a precise cost estimate for a specific service scenario. Any service changes enabled by new investments would require significant additional analysis and consideration of impacts on mobility, equity, and regional accessibility.

As noted above, this exercise only estimated costs for CTA and Pace services given that Metra's operating constraints (e.g., freight and Amtrak conflicts) introduce additional complexity. The companion PART memo on regional rail includes additional analysis of the cost implications of a shift toward more frequent all-day service on existing Metra corridors, and is available on the PART [webpage](#). Example findings from that analysis are noted in the **Preliminary results**: The incremental operating costs of maintaining pre-COVID-19 peak period service levels on CTA and Pace all day could be in the range of \$450-550M annually section below for context.

Methodology

Calculating excess service hours and miles

This analysis sought to estimate the incremental cost of increasing the baseline level of service on CTA rail, bus, and Pace bus during off-peak hours and on weekends. To understand this at a conceptual level, the analysis applied weekday AM peak service levels (those from 6 am – 9 am) to a 17-hour period throughout the day (6 am – 11 pm).

To estimate the operational impacts of this service approach, the analysis first needed to identify the peak level capacity that the system can handle within existing infrastructure constraints (e.g., rail track capacity, bus fleet, garage space, rail yards, etc.).

The analysis leveraged CTA and Pace's general transit feed specification (GTFS) data to calculate the service hours and service miles that CTA and Pace provided in the AM peak period (6 am – 9 am) in a pre-COVID-19 operating environment. The analysis used 2016 as a reference year, which was the most recent pre-COVID-19 year with a transit network available in CMAP's Travel Demand Model. As shown in Figure 1 above, overall vehicle revenue hours in 2016 were relatively close to the highest levels attained by both CTA and Pace operations in the decade prior to COVID-19. Likewise, the pandemic-induced operator shortages were not a factor which constrained service during this period.

For weekends (including holidays), the analysis used 2016 National Transit Database (NTD) service data which provided the average number of service hours and miles on Saturdays and Sundays. The analysis also applied Sunday service levels to any holidays throughout the year.

Using the weekday AM peak period metrics, the analysis calculated the incremental service hours and miles that would need to be provided daily for this peak period service to be applied throughout the day (from 6 am – 11 pm). To calculate only incremental costs, the analysis also factored in the service hours and miles provided during off-peak hours (9 am – 4 pm; 7 pm – 11 pm) and the PM peak period (4 pm – 7 pm). The result was the daily weekday excess service hours and miles that were used to assign to different cost drivers, as explained below.

For Saturdays and Sundays/holidays, the analysis adjusted down the average service hours and miles reported by NTD for CTA rail and bus to account for the inclusion of overnight service in those figures (given that the analysis is only estimating incremental cost of service from 6 am – 11 pm). The adjusted weekend/holiday hours and miles for CTA were then used to calculate the difference with the daily weekday excess service figures noted above. Pace has limited weekend service between 11 pm – 6 am, and so the baseline figures for those days were not adjusted. These calculations yielded Saturday, Sunday, and holiday daily excess service hours and miles to assign to each cost driver for both CTA and Pace.

Developing an allocated cost model

This exercise attempted to gauge order of magnitude incremental costs associated the service approach described above. However, given the availability of data from NTD, it also relied on a blended approach to incorporate different costs associated with increased service levels for both operations and maintenance.

The analysis considered three major cost drivers of increasing service frequency: the operations of the vehicle itself (e.g., additional electricity, labor, etc.), vehicle maintenance (e.g., additional wear and tear on trains and buses), and facility maintenance and general administration (e.g., the costs associated with train stations and bus garages). To properly account for the cost-of-service post-COVID-19, the analysis leveraged 2021 NTD cost and service data to develop each cost driver, which were then inflation-adjusted to 2023 dollars. The unit cost drivers are noted in Table 1 and described below:

- **VO / VRH:** Operational expenses for vehicle operations (VO) divided by annual vehicle revenue hours (VRH)
- **VM / VRM:** Operational expenses for vehicle maintenance (VM) divided by annual vehicle revenue miles (VRM)
- **FM & GA / VOMS:** Operational expenses for facility maintenance & general administration (FM & GA) divided by annual vehicles operated in annual maximum service (VOMS)

Table 1. Unit cost drivers, in 2023 dollars, considered to calculate incremental cost of increasing service frequency.

Mode	VO / VRH	VM / VRM	FM & GA / VOMS
CTA Bus	\$122.53	\$3.52	\$76,191.51
CTA Rail	\$87.53	\$1.72	\$237,844.09
Pace Bus	\$81.24	\$1.89	\$108,273.18

Source: 2021 National Transit Database service and cost data adjusted to 2023 dollars using International Monetary Fund (IMF) actual annual inflation for 2022 and projected inflation for 2023

For each period (e.g., weekdays, Saturday, Sunday/holiday), the analysis multiplied the excess service hours and service miles by their respective cost driver. While the existing peak capacity demonstrates that these service levels could be possible with the existing VOMS for a given period, the extended duration of this higher intensity of service could require additional vehicles (e.g., to reflect daytime maintenance operations). Therefore, the analysis assumed a 10 percent increase in VOMS — and the respective increase in FM & GA costs associated with the increase in VOMS. Lastly, to create a range rather than definitive cost, the analysis assumed a 25 percent buffer to each of these drivers for low- and high-end estimates.

Preliminary results: The incremental operating costs of maintaining pre-COVID-19 peak period service levels on CTA and Pace all day could be in the range of \$450-550M annually

The incremental cost for these service investments could range from \$450-550 million in annual operating costs. This figure does not include the cost necessary to ensure transit service providers can offer pre-COVID-19 levels of transit service, which is separately accounted for in the anticipated financial shortfall in 2026.

However, as noted above, such an improvement in service would also lead to increased ridership levels — thus, offsetting a portion of these additional costs through increased fare revenues. With more frequent and reliable service, perceptions of safety and travel times will improve — influencing more residents to rely on transit and to choose it as their first option.

The analysis uses pre-COVID-19 peak-period frequencies as a demonstrative exercise of what could be possible in the region given existing assets. However, for many transit users, this level of transit service did not always meet their needs or achieve the goals of a transit system the region wants. Articulating those goals, as recommended above, would assist with determining how the system's existing assets can achieve them. It would also help guide long-term capital planning that can increase the system's capacity to make further progress on those goals. This could include investments in the unfunded backlog of state of good repair (SOGR) projects like rail slow zones and fleet modernization, as well as system enhancements and expansions.

This analysis is not precise enough to generate a companion cost estimate of the associated impacts on paratransit service. However, it is important to note that expanded fixed-route service would likely increase the eligible service footprint for paratransit services due to increased geographic coverage, increased time-of-day coverage, or both. By reducing average transfer times and thus overall average trip times, service expansion could also reduce the allowable length of paratransit trips. These changes would likely increase the cost of providing this critical service. However, the specific impacts would vary based on where and when fixed-route service is expanded. For a sense of scale, in 2021, the combined operating expenses of the fixed-route services operated by CTA and Pace were \$1.7 billion. The 2021 operating expenses of Pace ADA paratransit were \$154 million.⁶²

Likewise, an analysis and cost estimates of Metra's evolution to regional rail are separately noted in a companion memo on the [PART webpage](#). Under this model, Metra could operate more frequent service on the inner portion of the system while maintaining regular express service to stations in outer suburban locations throughout the region. For example, on the Rock Island District (RID), this could entail 20 minute frequencies between downtown Chicago and Blue Island. The entire corridor between Joliet and downtown Chicago could see hourly service throughout the day and more frequent service during the morning and evening peak.

It is important to note, however, that the goal of the regional rail approach would also include changes to reduce the unit operating costs of this service, especially on the inner portions of the system. On comparable systems that leverage self-propelled trainsets and different operating models (e.g., proof of payment fare collection), operating costs are significantly lower. Peer system unit costs imply that with new rolling stock and a new operating approach, the incremental operating cost to transition the RID to the proposed regional rail service patterns could be under \$1 million annually. This incremental cost is relatively low in part because of existing high levels of service on the Rock Island line, complemented with cost efficiencies resulting from updating Metra's rolling stock and fleet deployment. Without those lower unit costs, a shift to this model on the Rock Island using existing rolling stock could cost on the order of \$28 million annually in operations and maintenance.

Consequently, shifting to this new operating model either on the RID or at the system level would also require significant additional capital investments. Given existing freight and Amtrak conflicts, there would also be limitations on what scale of service improvements would be feasible in the near to medium term, especially on lines that are not both owned and operated by Metra.

Appendix B: Addressing workforce challenges on the system

Additional investments in better service cannot materialize without the necessary workforce to address existing and future operational challenges on the system. CTA, Metra, and Pace have all experienced workforce constraints over the past three years.⁶³

The pandemic accelerated two significant pre-existing workforce challenges facing the transit industry: an aging workforce heading into retirement and barriers to recruiting and retaining a new workforce.⁶⁴ The region's transit agencies are not alone — a survey by the American Public Transit Association (APTA) found that 84 percent of transit agencies around the country are facing shortages which have impacted service quality.⁶⁵

The transit operators have implemented an aggressive campaign to recruit new operators and streamline onboarding to improve service reliability. For example, the CTA increased starting pay rates, implemented hiring and retention bonuses, adjusted workplace rules to directly hire full-time bus operators (previously only allowed to start as part-time), and offered free commercial driver licensing exams for eligible potential hires. Pace and CTA have also hosted dozens of virtual and in-person recruitment events to reach more candidates across the region.

The pandemic accelerated workforce challenges in many industries, not just transit. To remain competitive, the agencies should explore policies that improve the working conditions of those on the frontline. TransitCenter, a transit advocacy foundation, outlined key strategies in its *Bus Operators in Crisis*⁶⁶ report that agencies should consider as they seek to restore transit service and attract new staff. Some of those solutions include:

1. **Creating flexibility in worker schedules to the extent possible.** Increasing the flexibility of operator work schedules, despite the challenges it may create logistically, reduces operator burnout, and improves work-life balance. Swing shifts, split shifts, and mandatory overtime can accelerate retention challenges. Junior operators are particularly affected by these schedules due to a lack of seniority. Working with operators and transit labor to address work-life balance conditions can improve recruitment and retention.
2. **Exploring innovative safety measures.** Operators do much more than just move the train or bus. They are front line personnel that provide customer service, attend to customers with disabilities, and validate fare collection on buses. This makes them particularly vulnerable in instances where their safety is at risk. Exploring innovative safety measures that reduce the risk of transit personnel being injured or hurt on the job is crucial for recruiting and retaining new operators. For example, bus drivers in London sit within a completely enclosed cockpit separate from passengers.⁶⁷ They are still able to provide customer service and assist passengers with disabilities, but the enclosed cockpit limits the operators' exposure to safety risks that may occur. As the

agencies continue to upgrade their bus fleet, reconsidering the design of the fleet to decrease safety risks for personnel should be explored.

3. **Continuing to streamline hiring and training processes.** Operating transit in a legacy system is highly complex and requires extensive and proper hiring and training processes. Improving and streamlining these processes to accelerate new cohorts of operators can help meet the demand needed to increase service reliability. Processes like directly hiring into positions facing acute vacancies (e.g., direct hiring of rail operators rather than starting out as flaggers) can help address near-term challenges. Long-term, the agencies should continue to look at innovative practices in the industry to pilot and implement if effective.

Transit operators are the backbone of the regional transit system. The success of any additional investments in transit service wholly depends on the ability to attract and retain transit staff. Pre-existing workforce challenges have been accelerated by the pandemic and will persist unless proactive measures can improve core industry issues that make it difficult to fill vacancies. With sufficient resources provided by the state, the transit agencies can continue to implement effective strategies to recruit new talent. This is key to achieving the region's goals and building a more resilient and successful transit system coming out of the pandemic.

Endnotes

- ¹ Regional Transportation Authority (RTA), “Transit is the Answer,” 2022, <https://www.rtachicago.org/uploads/files/general/Region/Strategic-Plan/Final/TransitIsTheAnswer.pdf>.
- ² TransitCenter, “Who’s On Board 2019: How to Win Back America’s Transit Riders,” February 2019, https://transitcenter.org/wp-content/uploads/2019/02/TC_WhosOnBoard_Final_digital-1-1.pdf; RTA, “CTA 2022 Customer Satisfaction Survey,” November 2022, <https://www.rtachicago.org/uploads/files/general/Region/CTA-CSS-2022-Final-Report.pdf>; RTA, “Pace 2022 Customer Satisfaction Survey,” November 2022, <https://www.pacebus.com/sites/default/files/2023-02/Pace%202022%20CSS%20Final%20Report.pdf>; RTA, “Metra 2022 Customer Satisfaction Survey,” November 2022, https://rtams.org/sites/default/files/digital_documents/2022_Metra_Customer_Satisfaction_Study.pdf.
- ³ Yingling Fan, Andrew Guthrie, David Levinson, “Perception of Waiting Time at Transit Stops and Stations,” TRA-D-15-00333, https://nacto.org/wp-content/uploads/2016/02/1_Fan-et-al-Perception-of-Waiting-Time-at-Transit-Stops-and-Stations_2015.pdf.
- ⁴ Chicago Transit Authority (CTA), “Meeting the Moment Scorecard - June 2023,” June 2023, https://www.transitchicago.com/assets/1/6/Meeting_the_Moment_June_2023.pdf.
- ⁵ American Public Transportation Association (APTA), “Transit Workforce Shortage: Synthesis Report,” March 2023, <https://www.apta.com/wp-content/uploads/APTA-Workforce-Shortage-Synthesis-Report-03.2023.pdf>; Pace Suburban Bus, “Pace Board Adopts 2023 Budget,” November 9, 2022, <https://www.pacebus.com/news/pace-board-adopts-2023-budget>; RTA, “Chicagoland Agencies Ramp up Hiring Efforts amid Nationwide Transit Workforce Shortage,” October 18, 2022, <https://www.rtachicago.org/blog/2022/10/18/chicagoland-agencies-ramp-up-hiring-efforts-amid-nationwide-transit-workforce-shortage>.
- ⁶ Chicago Metropolitan Agency for Planning (CMAP), “Traffic and Transit Ridership Continues to Shift in 2022,” December 20, 2022, https://www.cmap.illinois.gov/updates/all/-/asset_publisher/UIMfSLnFfMB6/content/covid-affects-transportation-update.
- ⁷ RTA Mapping and Statistics, “COVID-19 Transit Dashboard for Chicago Region,” accessed May 2023, <https://experience.arcgis.com/experience/037eb95a8daa44f488e48d9afc09c38e>.
- ⁸ RTA Mapping and Statistics, “COVID-19 Transit Dashboard for Chicago Region.”
- ⁹ CMAP, “Mobility Recovery,” accessed September 11, 2023, <https://storymaps.arcgis.com/stories/88db4e4032674cdd893908446329f229#ref-n-u9V4wX>.
- ¹⁰ Danny Ecker, “Empty downtown workspace jumps again as economic fears grow,” Crain’s Chicago Business, April 5, 2023, <https://www.chicagobusiness.com/commercial-real-estate/empty-downtown-chicago-workspace-economic-fears-grow>.
- ¹¹ CMAP, “Rethinking mobility in a post-COVID Chicago region – COVID induced changes,” August 10, 2022, <https://www.cmap.illinois.gov/documents/10180/1475089/Mobility+Recovery+-+COVID-Induced+Changes.pdf/aad7941d-3d2c-f585-bd7d-d76b6d8f8861?t=1661185352412>.
- ¹² RTA, “Memo Summarizing Work of the Ten-Year Financial Plan Technical Working Group,” September 2022, https://www.rtachicago.org/uploads/files/general/Drupal-Old/documents/StrategicPlan/10%20Year%20Plan/10-Year-FP-WG-Technical-Memo_FINAL.pdf.
- ¹³ RTA, “CTA, Metra, and Pace Outline Service Adjustments to Changing Travel Patterns,” July 11, 2023, <https://www.rtachicago.org/blog/2023/07/11/cta-metra-and-pace-outline-service-adjustments-to-changing-travel-patterns>.
- ¹⁴ RTA, “CTA, Metra, and Pace outline service adjustments to changing travel patterns.”
- ¹⁵ RTA, “CTA, Metra, and Pace outline service adjustments to changing travel patterns.”
- ¹⁶ CTA, “Meeting the Moment scorecard - June 2023.”
- ¹⁷ RTA, “CTA, Metra, and Pace Outline Service Adjustments to Changing Travel Patterns.”
- ¹⁸ CTA, “CTA Continues to Improve Schedules for More Reliable Service in February,” March 9, 2023, <https://www.transitchicago.com/-cta-continues-to-improve-schedules-for-more-reliable-service-in-february/>.
- ¹⁹ Pace Suburban Bus, “Pace Board Adopts 2023 Budget.”

-
- ²⁰ Igor Studenkov, “West suburbs, East Garfield Park get more off-peak, evening Metra service,” Wednesday Journal of Oak Park and River Forest, November 29, 2022, <https://www.oakpark.com/2022/11/29/west-suburbs-east-garfield-park-get-more-off-peak-evening-metra-service/>; Metra, “Metra’s Proposed 2024 Fare Structure Modifications,” accessed September 11, 2023, <https://metra.com/2024FarePlan>.
- ²¹ Metra, “June 2023 Ridership Trends,” July 19, 2023, <https://metra.com/sites/default/files/inline-files/June%202023%20Ridership%20Trends%20Memo.pdf>.
- ²² RTA, “CTA, Metra, and Pace outline service adjustments to changing travel patterns,” July 11, 2023, <https://www.rtachicago.org/blog/2023/07/11/cta-metra-and-pace-outline-service-adjustments-to-changing-travel-patterns>.
- ²³ Chicago Transit Authority (CTA), “Meeting the Moment Scorecard - June 2023.”
- ²⁴ CTA, “Recent Rail Service Schedule Optimization Providing More Consistent and Reliable Service,” September 14, 2022, <https://www.transitchicago.com/-recent-rail-service-schedule-optimization-providing-more-consistent-and-reliable-service/>.
- ²⁵ CTA, “Bus Schedule Optimization to Provide More Consistent, Reliable Service,” January 9, 2023, <https://www.transitchicago.com/bus-schedule-optimization-to-provide-more-consistent-reliable-service/>.
- ²⁶ CTA, “Meeting the Moment scorecard,” September 2022, https://www.transitchicago.com/assets/1/6/Meeting_the_Moment_September2022.pdf; CTA, “Meeting the Moment scorecard - June 2023.”
- ²⁷ CMAP analysis of National Transit Database (NTD) monthly service data. Analysis represents a comparison of the 3-month rolling average from July 2019 to July 2023. Source data are available at: <https://www.transit.dot.gov/sites/fta.dot.gov/files/2023-09/July%202023%20Complete%20Monthly%20Ridership%20%28with%20adjustments%20and%20estimates%29.xlsx>.
- ²⁸ Pace Suburban Bus, “Status of Suspended and Reduced Routes,” accessed September 11, 2023, <https://www.pacebus.com/status-suspended-and-reduced-routes>.
- ²⁹ Pace Suburban Bus, “Status of Suspended and Reduced Routes.”
- ³⁰ Pace Suburban Bus, “Pace Vanpool,” accessed September 11, 2023, <https://www.pacebus.com/vanpool>.
- ³¹ Pace Suburban Bus, “Pulse: Pace’s Rapid Transit Service,” accessed September 11, 2023, <https://www.pacebus.com/pulse>.
- ³² Pace Suburban Bus, “Pace Board of Directors Approve Plans to Reimagine Suburban Transportation Service,” August 16, 2023, <https://www.pacebus.com/news/pace-board-directors-approve-plans-reimagine-suburban-transportation-service>.
- ³³ Governor Kathy Hochul, “Governor Hochul Announces a Record Investment to Save the MTA and Secure Long-Term Stability for Public Transit,” May 3, 2023, <https://www.governor.ny.gov/news/governor-hochul-announces-record-investment-save-mta-and-secure-long-term-stability-public>.
- ³⁴ Metropolitan Transportation Authority (MTA), “MTA Announces Service Increases on N and R Lines,” August 22, 2023, <https://new.mta.info/press-release/mta-announces-service-increases-n-and-r-lines>.
- ³⁵ Alissa Walker, “The Off-Peak Rider Is the Future of the Subway,” Curbed New York, May 18, 2023, <https://www.curbed.com/2023/05/public-transit-fiscal-cliff-off-peak-mta.html>.
- ³⁶ MTA, “MTA 2023 Adopted Budget: February Financial Plan 2023-2026” February 2023, <https://new.mta.info/document/106026>.
- ³⁷ TransitCenter, “Built to Win: Riders Alliance Campaign Secures Funding for More Frequent Subway Service,” July 17, 2023, https://transitcenter.org/built-to-win-riders-alliance-campaign-gets-mta-to-fund-more-frequent-service/?mc_cid=047925098f&mc_eid=9858377fc9.
- ³⁸ Washington Metropolitan Area Transit Authority (WMATA), “More rail service coming to Metro beginning Monday,” September 7, 2023, <https://www.wmata.com/about/news/September-rail-service-increase.cfm>.
- ³⁹ Jordan Pascale, “Randy Clarke charmed Metro riders in his first year – but challenges still lie ahead,” National Public Radio (NPR), July, 28, 2023, <https://www.npr.org/local/305/2023/07/28/1190701789/andy-clerke-charmed-metro-riders-in-his-first-year-but-challenges-still-lie-ahead>.
- ⁴⁰ WMATA, “More rail service coming to Metro beginning Monday.”

-
- ⁴¹ WMATA, “Metro to operate more train and bus service with improvements to Blue, Orange, and Silver lines and 68 bus routes beginning next week,” June 23, 2023, <https://www.wmata.com/about/news/FY25-Bus-and-rail-service-improvements.cfm>.
- ⁴² WMATA, “Service and Fare Recommendations,” June 10, 2021, <https://www.wmata.com/about/board/meetings/board-pdfs/upload/3A-Service-and-Fare-Changes-Updated-0608.pdf>.
- ⁴³ WMATA, “Metrobus Changes Begin Sunday, June 25, 2023,” June 23, 2023, <https://www.wmata.com/service/status/details/service-changes-june-2023.cfm>.
- ⁴⁴ Jordan Pascale, “Randy Clarke charmed Metro riders in his first year – but challenges still lie ahead”
- ⁴⁵ Jordan Pascale, “Randy Clarke charmed Metro riders in his first year – but challenges still lie ahead”
- ⁴⁶ Berlin, “Subway (U-Bahn): Timetables & tickets,” accessed on September 11, 2023, <https://www.berlin.de/tourismus/infos/nahverkehr/1742343-1721041-ubahn.html>.
- ⁴⁷ Berlin, “Buses & bus routes,” accessed September 11, 2023, <https://www.berlin.de/en/public-transportation/1747304-2913840-buses-bus-routes.en.html>.
- ⁴⁸ Berlin, “Hybrid urban-suburban (S-Bahn): Timetables & tickets,” accessed on September 11, 2023, <https://www.berlin.de/en/public-transportation/1746751-2913840-sbahn.en.html>.
- ⁴⁹ Imanuel Marcus, “Berlin: Changes Coming Up in Public Transport System,” The Berlin Spectator, December 3, 2022, <https://berlinspectator.com/2022/12/03/berlin-changes-coming-up-in-public-transport-3/>.
- ⁵⁰ RailTech, “Fully automated metros introduced on line 4 in Paris,” September 14, 2022, <https://www.railtech.com/digitalisation/2022/09/14/fully-automated-metros-introduced-on-line-4-in-paris/>.
- ⁵¹ Le Parisien, “Métro : ligne par ligne, les temps d’attente relevés par Le Parisien [Metro: line by line, waiting times noted by Le Parisien],” December 16, 2022, <https://www.leparisien.fr/info-paris-ile-de-france-oise/transports/metro-ligne-par-ligne-les-temps-dattente-relevés-par-le-parisien-16-12-2022-BOJPQX36TBHPZEZSNJNP66XLRQ.php>.
- ⁵² Régie autonome des transports parisiens (RATP), “Fully Automated, Century-Old Metro Lines,” May 31, 2017, <https://www.ratp.fr/en/groupe-ratp/engineering/fully-automated-century-old-metro-lines>.
- ⁵³ RailTech, “Fully automated metros introduced on line 4 in Paris.”
- ⁵⁴ Réseau express métropolitain (REM), “What are the hours of service and frequency of the REM?,” accessed on September 11, 2023, <https://rem.info/en/travelling/travel-faq/what-are-the-hours-of-service-and-frequency-of-the-rem>.
- ⁵⁵ REM, “Installation of platform screen doors for dynamic tests on the representative segment,” December 8, 2023, <https://rem.info/en/news/installation-platform-screen-doors-dynamic-tests-representative-segment>.
- ⁵⁶ RTA, “Transit is the Answer.”
- ⁵⁷ Pace Suburban Bus, “Driving Innovation: The Pace Strategic Vision Plan,” September 2021, https://www.pacebus.com/sites/default/files/2021-10/Driving%20Innovation%20Plan_September%202021.pdf; CTA, “Chicago Transit Authority Service Standards and Policies: Revised May 2023,” May 2023, https://www.transitchicago.com/assets/1/6/Chicago_Transit_Authority_Service_Standards.pdf; Metra, “Metra to Upgrade Service on 4 Lines Dec. 12,” December 2, 2022, <https://metra.com/newsroom/metra-upgrade-service-4-lines-dec-12>.
- ⁵⁸ RTA Mapping and Statistics, “Innovation, Coordination, and Enhancement (ICE),” accessed August 24, 2023, <https://rtams.org/innovation-coordination-and-enhancement-ice>.
- ⁵⁹ CMAP, “Population and Jobs with at Least Moderately High Transit Availability,” 2022, <https://www.cmap.illinois.gov/2050/indicators/population-jobs-transit-availability>.
- ⁶⁰ CTA, “CTA/Pace North Shore Coordination Plan,” accessed on September 11, 2023, <https://www.transitchicago.com/planning/ctapacenorthshore/>.
- ⁶¹ CMAP, “My Daily Travel Survey: Demographics inform disparities in travel around northeastern Illinois,” October 2021, <https://www.cmap.illinois.gov/documents/10180/684566/My+Daily+Travel+-+demographics.pdf/9ce6b4bb-95d3-7d7a-dfc5-bd7424d1aea9?t=1634763562614>.
- ⁶² CMAP analysis of National Transit Database data. Pace bus figures only include directly operated service.

-
- ⁶³ APTA, “Transit Workforce Shortage: Synthesis Report,” March 2023, <https://www.apta.com/wp-content/uploads/APTA-Workforce-Shortage-Synthesis-Report-03.2023.pdf>; Pace Suburban Bus, “Pace Board Adopts 2023 Budget,” November 9, 2022, <https://www.pacebus.com/news/pace-board-adopts-2023-budget>; RTA, “Chicagoland Agencies Ramp up Hiring Efforts amid Nationwide Transit Workforce Shortage,” October 18, 2022, <https://www.rtachicago.org/blog/2022/10/18/chicagoland-agencies-ramp-up-hiring-efforts-amid-nationwide-transit-workforce-shortage>.
- ⁶⁴ TransitCenter, “Bus Operators in Crisis,” July 2022, https://transitcenter.org/wp-content/uploads/2022/07/Bus-Operators-in-Crisis_RGB_Interactive-1.pdf.
- ⁶⁵ APTA, “Transit Workforce Shortage: Synthesis Report.”
- ⁶⁶ TransitCenter, “Bus Operators in Crisis.”
- ⁶⁷ TransitCenter, “Bus Operators in Crisis.”